Date: Mon, 29 Aug 94 04:30:40 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@UCSD.Edu
Reply-To: Ham-Homebrew@UCSD.Edu
Precedence: Bulk
Subject: Ham-Homebrew Digest V94 #257
To: Ham-Homebrew

Ham-Homebrew Digest Mon, 29 Aug 94 Volume 94 : Issue 257

Today's Topics:

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

Date: Sat, 27 Aug 94 16:55:00 -0500
From: ihnp4.ucsd.edu!dog.ee.lbl.gov!agate!iat.holonet.net!wwswinc!
art.harris@network.ucsd.edu
Subject: 440Mhz 50 ohm - 70 oh
To: ham-homebrew@ucsd.edu

In <CuzwLp.Co6@fore.com>, Ed N3SDO wrote:

ED>I heard something very much like this, Using recycled catv lo loss
ED>semi rigid 75 ohm coax for 440. He said that for receiving the input Z
ED>is not that critical as long as you match the antenna to the line.
ED>If you feed your tv (75 ohm input) with a 50 ohm coax fed antenna, I dont
ED>expect that the tv will show much signal degredation. I suspect that the
ED>coax loss would be of more concern than the tv impedance mismatch.

ED>For transmitting you need to match the 50 ohm transmitter to the 75 ohm line
ED>for best possible results.
ED>If your antenna is a dipole it will be just fine with the 75 ohm line, if a
ED>gamma feed, adjust gamma for 75 ohm feed. I hear you can tune a ringo to ru
ED>with 75 ohm feed also.

That 75-ohm, semi-rigid cable will work just fine without any need to
match it to 50 ohms. The SWR resulting from a 75 to 50 ohm mismatch is
only 1.5 to 1. 100 feet of 3/4-inch hardline has about 1.7 db loss at
440 MHz when matched. With a 1.5 to 1 SWR you will get an additional
loss of LESS THAN 0.1 db!

Here's the best part. If you truly have an antenna with a 50-ohm
feedpoint impedance, cut the 75-ohm hardline to an exact multiple of
1/2-wavelength (taking into account the velocity factor of the line),
and your rig will see a 50-ohm load.

Art N2AH

Date: Sat, 27 Aug 94 16:55:00 -0500
From: ihnp4.ucsd.edu!dog.ee.lbl.gov!agate!iat.holonet.net!wwswinc!
art.harris@network.ucsd.edu
Subject: Dipoles & 50 ohm coax
To: ham-homebrew@ucsd.edu

In <Cv44z2.3CM@icon.rose.hp.com>, Greg KD6KGW wrote:

GR>A resonant dipole antenna (yes, in the mythical Free Space) has an impedance
GR>of 70-odd ohms. If you hook it directly to a 50 ohm coax you will see a
GR>1.5:1 SWR. You can trim the antenna to make it look like 50 ohms, but now
GR>it's not resonant any more, and isn't 50 ohms *resistive*; there's a
GR>reactance component to it. Also, a non-resonant antenna isn't as "good"
GR>as a resonant one.   ^^^
   ^^^^^^^^^^^^^^^^^^
Who says? In what way is it not as good?

GR>So, what are the alternatives? One idea is to use 70-odd ohm coax (TV Stuff
GR>at the antenna end. Perfect match. The problem is how to hook that coax to
GR>your 50 ohm tranceiver. If you just hook it up, you'll have that 1.5 : 1
GR>SWR again.

Not so! SWR is determined by the feedpoint impedance of the antenna and
the characteristic impedance of the line, not the impedance of the rig.

If your dipole really has a feedpoint impedance of 75 ohms (don't bet on

that) and is fed with 75-ohm line, Your SWR will be 1:1 and the rig will
see a 75-ohm load. I suspect your rig would not mind this at all and
would deliver full power.

GR>So, all you Dipole Experts, what is the right answer? Yes, this is somewhat
GR>accedemic, since you never really have a mythical Free Space antenna, but
GR>at least you will be starting from a technically sound design.

There really is no "right" answer. You can estimate the actual
radiation resistance of your dipole based on its height above ground in
wavelengths. This information is in most antenna handbooks. It will
undoubtedly be somewhere between 40 to 90 ohms at most reasonable
heights.

The question then becomes: What feedline will give you the lowest loss
while allowing the transmitter to put out full power. The lowest loss
line may not necessarily be the one that gives the lowest SWR. Also, if
the line is not perfectly matched to the antenna, the load that the
transmitter sees will vary with the length of the line, ALTHOUGH THE SWR
WILL NOT VARY.

Since virtually all rf wattmeters and directional couplers are 50 ohm
devices, I would probably go with a low loss 50 ohm line. I would trim
the dipole for minimum SWR. If the rig didn't like the impedance it was
seeing, as evidenced by reduced output, I would adjust the line length
until the rig was putting out full power.

Remember, no matter how perfectly you match the line to the antenna, it
will only be matched at one frequency. Tune up or down the band a bit
and you will be mismatched. At my station, I accept the fact that I'm
going to be mismatched most of the time. So I use ladder line and a
tuner. I get low loss and my rig always sees a nice 50 ohm load. ;-)

73 de Art N2AH

Date: 26 Aug 1994 20:19:32 GMT
From: ucsnews!newshub.sdsu.edu!nic-nac.CSU.net!charnel.ecst.csuchico.edu!
yeshua.marcam.com!insosf1.infonet.net!news.i-link.com!news.sprintlink.net!
tequesta.gate.net!inca.gate.net!@@ihnp4.ucsd.edu
Subject: FM transmitter
To: ham-homebrew@ucsd.edu

asnyder (asnyder@vt.edu) wrote:
:   I was looking for the schematics on how to build a FM transmitter,
: maybe even a transceiver later on down the road. I have the schematics for
: one that was e-mailed to be, but it never worked. I would like it to be simple

: if possible. Any help would be appreciated.
: *
: * Art

Motorola makes a chip for cordless telephones (MC2833P) which with
a few additional components will meet your needs. Get a copy of the
Motorola RF data book. A design example is included. The chip is
available from sources like DC Electronics, Scottsdale, AZ for $1.75!
Call them at (800)467-7736.

--
Nigel Kirlew
anto@gate.net

Date: Sat, 27 Aug 94 21:26:00 -0500
From: netcomsv!netcomsv!thease!lou.brown@decwrl.dec.com
Subject: FM transmitter
To: ham-homebrew@ucsd.edu

A >Message-ID: <33gnl0$lvd@solaris.cc.vt.edu>
A >Newsgroup: rec.radio.amateur.homebrew
A >Organization: Virginia Tech, Blacksburg, Virginia

A > I was looking for the schematics on how to build a FM transmitter,
A >maybe even a transceiver later on down the road. I have the schematics
A >one that was e-mailed to be, but it never worked. I would like it to b
A >simple
A >if possible. Any help would be appreciated.
*
A >* Art

Get the Motorola Communication Devices databook. The have some AM/FM
transmitter ICs that are good up to 1 GHz @ 10 mw. Even better, since you
are at a university, call the Motorola's university support office and get
some free samples. I'm not sure what the number is, but my freind had seven
of these chips sent to him when he was at school last year.
Good luck,
Lou

brown@ardneh.rsl.ukans.edu

---
 * WaveRdr 1.10 [NR] * UNREGISTERED EVALUATION COPY

Date: 23 Aug 1994 07:25:00 +0200
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!EU.net!Germany.EU.net!
news.dfn.de!news.coli.uni-sb.de!News.Saar.DE!hit.sb.sub.de!rmk@network.ucsd.edu
Subject: Homebrew Global Positioning System (GPS)
To: ham-homebrew@ucsd.edu

Hello from Germany!
The Rockwell Comany offers for about 800 DM - 1500 DM GPS-Modules for
customized applications. The modules have a RS232 interface.

Rainer M. Kreten

--

CrossPoint v3.0 R

Date: 28 Aug 1994 02:14:02 -0400
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!europa.eng.gtefsd.com!
swiss.ans.net!newstf01.cr1.aol.com!search01.news.aol.com!not-for-
mail@network.ucsd.edu
Subject: HP8052-3081 PIN diodes
To: ham-homebrew@ucsd.edu

In article <1994Jun15.124148.8146@arrl.org>, zlau@arrl.org (Zack Lau
(KH6CP)) writes:

I'll send you samples of the Microsemi alternate part. E-mail me.

Date: 27 Aug 1994 16:38:23 GMT
From: ihnp4.ucsd.edu!dog.ee.lbl.gov!agate!howland.reston.ans.net!torn!news.unb.ca!
nbt.nbnet.nb.ca!ve1fc.nbnet.nb.ca!ve1fc@network.ucsd.edu
Subject: MOTOROLA Expo DPL code plug information needed
To: ham-homebrew@ucsd.edu

Have an EXPO (Motorola) and need a DPL code plug for code 261.

Does anyone know how to jumper a code plug for this code ?

If so PLEASE let me know so as I can do it !!

Would be one HELL of a lot easier than jumpering one selection at a time.

There are 18 jumpers on the plug and doing it one at a time .... YAWN !!

Many thanks for a reply if you can tell me..

RGDS
Graham
ve1fc@nbnet.nb.ca

Date: Fri, 26 Aug 94 20:25:00 -0500
From: ihnp4.ucsd.edu!dog.ee.lbl.gov!agate!iat.holonet.net!wwswinc!
geoff.kennedy@network.ucsd.edu
Subject: Phase-locked Xtal Oscilla
To: ham-homebrew@ucsd.edu

Hi Y'all !!!

I would like to build a crystal-controlled oscillator which can be phase-locked to an input signal. Has anyone done this ??

The oscillator will operate at either 2.4576 or 4.9152 MHz, and must lock onto a 2.4 KHz audio tone (f/1024 or f/2048). Lock-in and tracking range must be +/- 2 Hz (relative to Fin). The input signal is often buried in noise.

Once locked, the oscillator should not drift too far if the input signal drops below threshold - fast lock-up and slow release.

Any ideas ??

Thanks in advance.

Geoff L. Kennedy
Fidonet address: 1:153/290

... Never anger a dragon, for thou art crunchy and go well with brie...
--- Blue Wave/Max v2.12
 * Origin: Frog Hollow Port Moody BC 604-469-0264 (1:153/290)

Date: 28 Aug 1994 21:54:10 -0400
From: newstf01.cr1.aol.com!search01.news.aol.com!not-for-mail@uunet.uu.net

Subject: Phase-locked Xtal Oscilla
To: ham-homebrew@ucsd.edu

In article <93.1893.7584.0NFB2E9B@woodybbs.com>,
geoff.kennedy@woodybbs.com (Geoff Kennedy) writes:

If the signal is buried in noise, it may not be possible to lock onto it
all the time. There are PLL chips available that will work at the
frequencies you mentioned, but the +/- 2 Hz may be a problem, especially
with a weak signal. If you have to lock on to signals very near the noise
level, some addtional analog or digital signal processing may be required.
E-mail me if you want more info to RobinsonHB@aol.com.

Date: Sun, 28 Aug 94 13:22:44 MYT
From: pa.dec.com!csam.MY!fhlee@decwrl.dec.com
Subject: Q:How to build valve amps.
To: ham-homebrew@ucsd.edu

Hi,

I am interested in building a valve amp myself. Does
anyone knows if there is any docs out there which
will explains how to do it.

Thanks.

-- Lee, Fook Heng
   fhlee@csam.my

Date: 26 Aug 1994 19:24:40 GMT
From: agate!howland.reston.ans.net!usc!nic-nac.CSU.net!news.Cerritos.edu!
news.Arizona.EDU!seds!enigma@ames.arpa
Subject: TNC emulation code.
To: ham-homebrew@ucsd.edu

Is there any TNC emulation code out there that I can use with a PSK modem
I'm working on?

Andrew Tubbiolo
Enigma@seds.lpl.arizona.edu
KC7BHW

End of Ham-Homebrew Digest V94 #257
****